

## ABSTRACT OF THE DISCLOSURE

Two members 11 and 12 are butted against each other, and the butted portion is cut with a cutter 20 to form a slit 14 thereto, and a filler member 21 is inserted to slit 14 using rollers 22, 23 and 25. Then, friction stir welding is performed to weld filler member 21 and two member 11 and 12 disposed on both sides thereof using a rotary tool 35, and the position of a gap formed between an end of filler member 21 at the upstream side in the rotating direction of rotary tool 35 and one member 11b at the upstream side in the rotating direction is detected using an optical sensor 35. Then, half the width of filler member 21 is added to the detected position, and the calculated position is set as the position of the rotary tool 35.